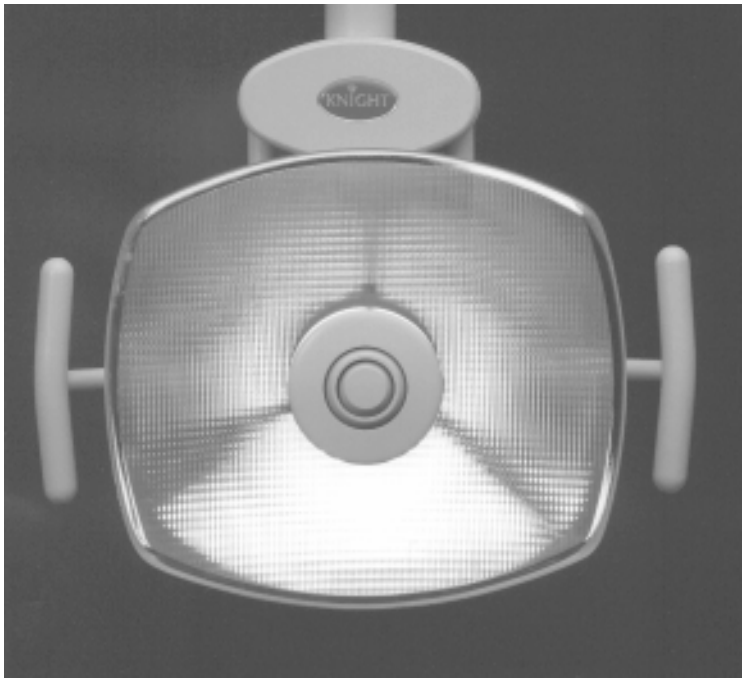
Operation and Care Manual

Knight Model L Operating Light



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TPW1393 Rev. G

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Label Definitions

Hazards which result in severe personal injury or death.

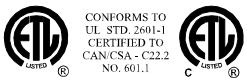
Hazards which could result in personal injury.

Hazards which could result in equipment or property damage.

Alert user to pertinent facts and conditions.

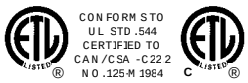
“DANGER - EXPLOSION HAZARD - DO NOT USE THIS EQUIPMENT IN THE PRESENCE OF FLAMMABLE ANESTHETICS”

UNIT, WALL, CABINET AND CEILING LIGHTS:



CE

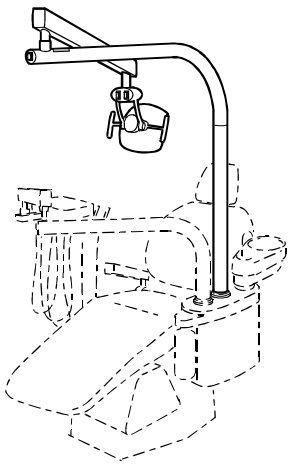
TRACK LIGHT ONLY:



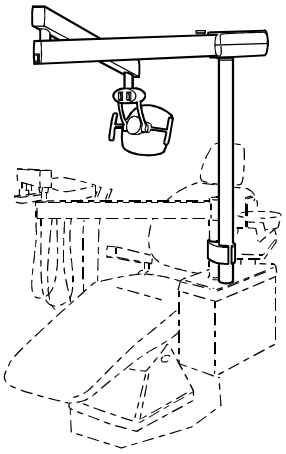
Introduction

This manual provides detailed information on the operation, adjustments and maintenance of the Knight Operating Light Model L. Carefully read this manual and save it for future reference.

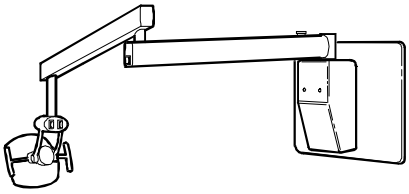
This equipment is rated Class I, Type B



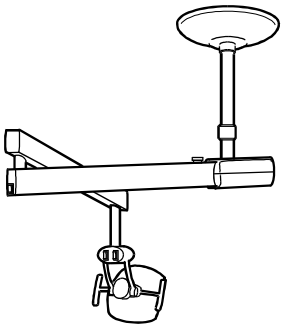
Unit Mounted Light



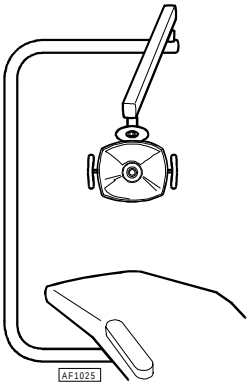
Universal Unit Light



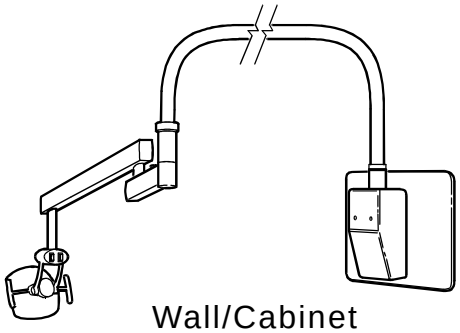
Wall Mounted Light
(Short Aarm)



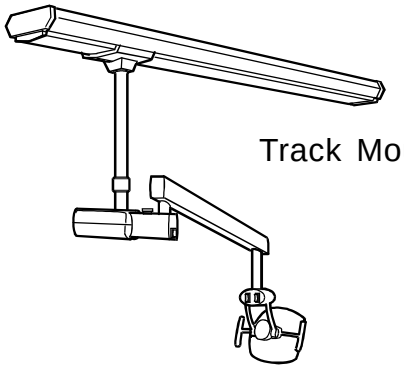
Ceiling Mounted Light



Concept LR Light



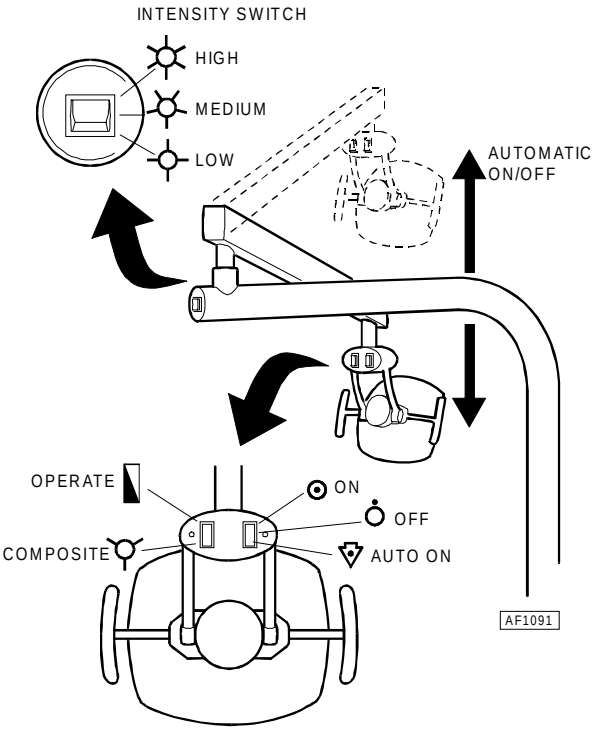
Wall/Cabinet
Mounted Light



Track Mounted Light

Operation

The Model L light operates using an automatic switch. To turn the light off or on, simply raise or lower the light head. This special feature and others are explained in detail below.



WARNING: Do not operate the light without the plastic reflector cover in place. Operating the light without the cover could result in personal injury.

~ BASIC OPERATION ~

1. Turn the operate/composite switch to the operate position.
2. Turn the three position switch to auto on/off.
3. Lift the light head up. The light will turn off automatically.
4. Lower the light into operating position. The light will turn on automatically.
5. Set the desired intensity by using the switch located on the end cap of the fixed arm.

Controls

OPERATE/COMPOSITE SWITCH

This switch offers the operator the following choice of functions:

Operate Position: This position is used for normal operation and allows the light intensity to be adjusted by the intensity switch (High, Medium and Low Intensity).

Composite Position: This position provides the operator with reduced color temperature lighting when working with photosensitive composites.

THREE POSITION SWITCH

The three position switch is located on the back of the light head. This switch provides three functions, On, Off and Auto On/Off

Auto on/off position: This position provides the operator with the ablity to control the lights on/off by moving the light head. As the light head is lifted up and out of the operating position, a special switch in the light arm automatically turns the light off.

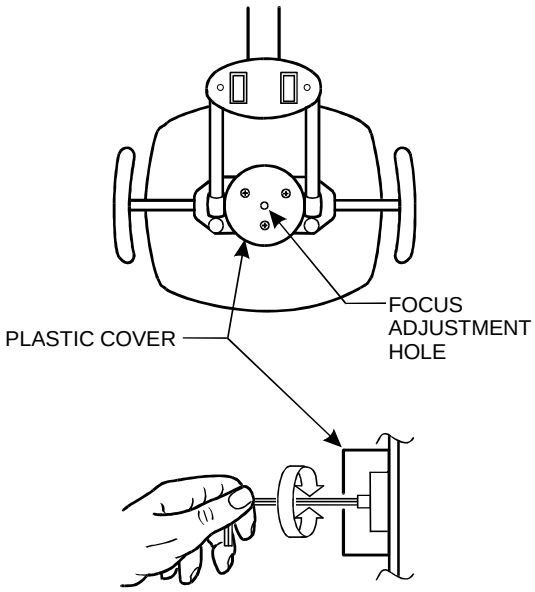
Manual on position and off position: These two positions override the auto switch and turn the light off or on.

INTENSITY SWITCH

This switch controls the light intensity and offers three intensity settings (High, Medium, Low).

Focus Adjustment

This adjustment affects the sharpness of the light pattern at a specified distance. The Model L light focus is preset at the factory at 27" from the foremost surface of the lamp shield to the patient, however the focus can be adjusted to any distance between 21 and 39".

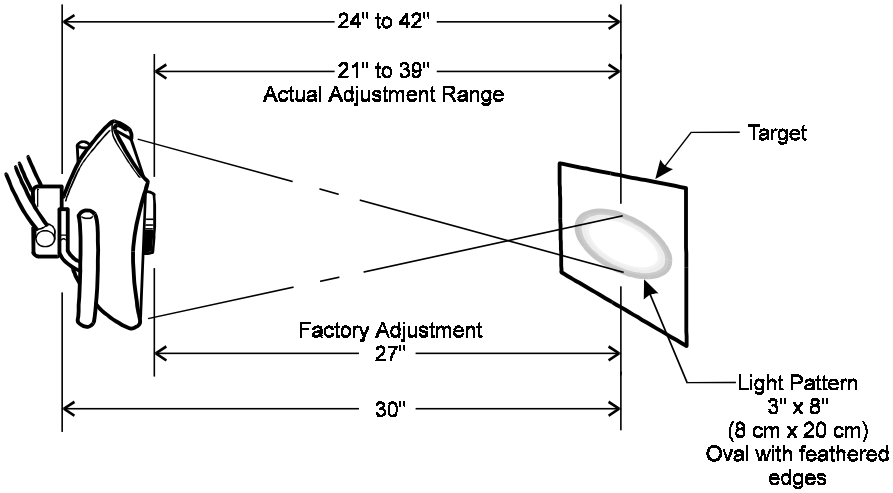


~ LIGHT FOCUS ADJUSTMENT PROCEDURE ~

1. Position the light 21 to 39 inches (53 to 99cm) from a target (wall, chair back, etc.) and turn on the light.

2. Insert the 9/64" allen wrench provided into the hole in the back cover of the light to reach the focus adjusting screw inside .

3. Loosen or tighten the screw until the desired pattern is obtained. We suggest a nominal pattern size of 3 x 8 inches (8 x 20cm), oval in shape, with feathered edges.



Bulb Replacement

All Model "L" light heads are pre-assembled at the factory with the bulb and shields in place. If it becomes necessary to replace the bulb, please use the following procedure:

WARNINGS

WARNING: The light bulb operates at extreme high temperatures. Do not attempt to remove the bulb until it has cooled for at least 2 minutes after the light has been turned off.

CAUTION

CAUTION: Install the bulb without removing its protective plastic cover (See Figure 14). Finger marks left on the bulb glass during installation will reduce the bulb life. If the bulb is accidentally handled, wipe it clean immediately with denatured alcohol.

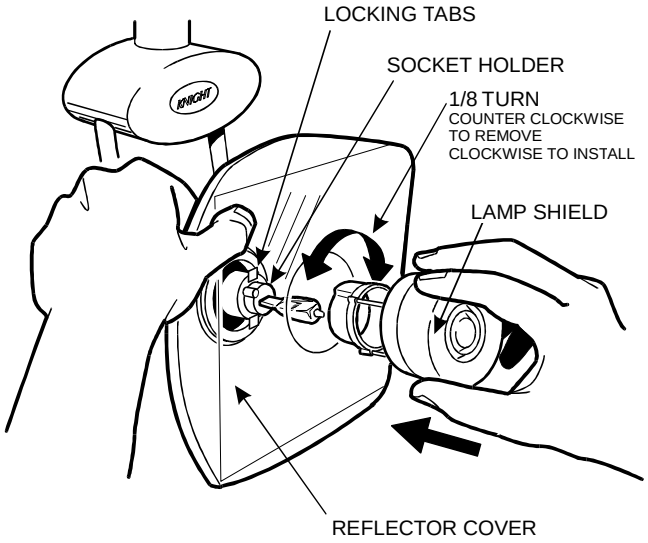
~ BULB REPLACEMENT PROCEDURE ~

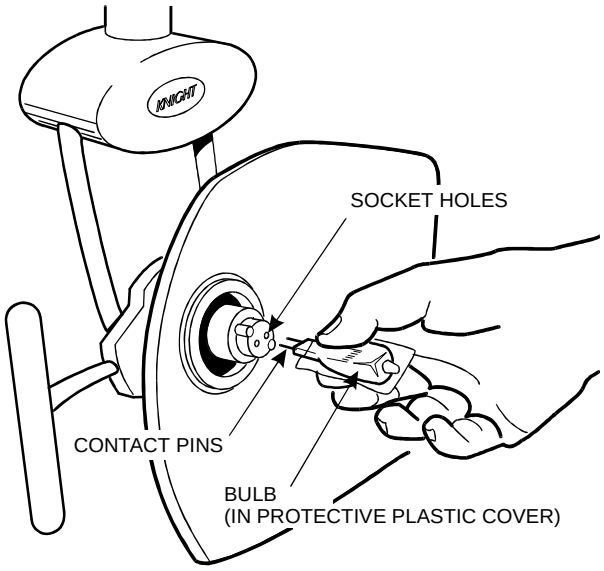
1. Turn the light off and allow it to cool at least 2 minutes **(Do not touch hot bulb - See Warning)**. Remove the lamp shield and reflector cover by pushing in and turning the lamp shield **counter clockwise** (See Figure 12).

2. Remove the bulb by pulling straight out (See Figure 13).

3. To install the new bulb, align the contact pins with the socket holes and press the bulb in firmly **(Do not touch bulb with fingers - See Caution)**.

4. Place the reflector cover in position over the reflector (See Figure 12). Insert the lamp shield through the hole in the reflector cover and onto the socket holder (make sure to align the locking tabs). Push in and turn the lamp shield approximately 1/8-turn **clockwise** to lock in place.





Cleaning

Under normal use, the Knight Operating light only requires periodic cleaning. Please read the following procedures and cautions carefully.

WARNING: The light bulb operates at extreme high temperatures. Do not attempt to remove the bulb until it has cooled for at least 2 minutes after the light has been turned off.

CAUTION: Finger marks left on the bulb glass during installation will reduce the bulb life. If the bulb is accidentally handled, wipe it clean immediately with denatured alcohol.

CAUTION: Do not use solvents, abrasive cloths or cleaners, as they may damage the coating surface of the reflector and the reflector cover.

~ CLEANING THE REFLECTOR AND COVER ~

1. Refer to the Bulb Replacement Procedure and remove the lamp shield and reflector cover as if replacing the bulb **(Do not touch hot bulb or reflector - See Warning)**.

2. Use a clean, soft tissue dampened with denatured alcohol and gently wipe the surfaces of the reflector.

3. Use a clean, soft tissue dampened with denatured alcohol and gently wipe both sides of the reflector cover, taking care not to scratch the surface **(See Caution)**.

3. Replace the Lamp shield and reflector cover.

~ CLEANING THE PAINTED SURFACES ~

Occasionally wipe the painted surfaces of your Knight Light with a damp cloth. No other maintenance is required to preserve the finish.

Warranty

WARRANTY

Knight by Midmark products are warranted against defect in material and workmanship for a period of 2 years, unless otherwise indicated in writing, from the time of delivery.

Exceptions:

1) "KINK-VALVE" module carries a 10 year warranty.
2) The original light bulb on a new light carries a 1 year warranty.
3) Accessories not manufactured by Knight are excluded (i.e. Fiber optic systems, Scalers, Electric micromotor systems, Curing light systems, X-ray viewers, etc.)
4) Replacement parts and accessories carry a 90 day warranty.

Knight's sole obligation under the warranty is either to provide parts for the repair or to provide the replacement product (excluding labor and shipping). The buyer shall have no other remedy. All special, incidental and coincidental damage is excluded. Written notice of breach of warranty must be given to Knight within the warranty period.

The warranty does not cover damage resulting from improper installation or maintenance, accident or misuse. The warranty does not cover damage resulting from the use of cleaning, disinfecting or sterilization chemicals and processes.

No other warranties as to merchantability, fitness for use or otherwise are made.

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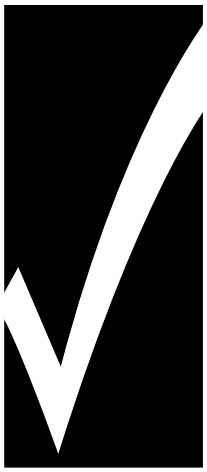
DECLARATION OF CONFORMITY



MIDMARK CORPORATION

Midmark Corporation declares that Model L Light conforms to the applicable requirements of the Medical Device Directive 93/42/EEC, Annex VII.

Serial Numbers: LL3055 to present.

Quality Assurance Manager

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October 18, 1999

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KA940700

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